

August 27, 2019

Arcelor Mittal USA, Inc.
250 W US Highway 12
Burns Harbor, IN 46304-9745

Work Order No.: 19H1552

Re: Ammonia-Storm Ditch

Dear Teri Kirk:

Microbac Laboratories, Inc. - Chicagoland Division received 8 sample(s) on 8/26/2019 9:50:00AM for the analyses presented in the following report as Work Order 19H1552.

The enclosed results were obtained from and are applicable to the sample(s) as received at the laboratory. All sample results are reported on an "as received" basis unless otherwise noted.

All data included in this report have been reviewed and meet the applicable project specific and certification specific requirements, unless otherwise noted. A qualifications page is included in this report and lists the programs under which Microbac maintains certification.

This report has been paginated in its entirety and shall not be reproduced except in full, without the written approval of Microbac Laboratories.

We appreciate the opportunity to service your analytical needs. If you have any questions, please contact your project manager. For any feedback, please contact Ron Misiunas, Division Manager, at ron.misiunas@microbac.com.

Sincerely,
Microbac Laboratories, Inc.



Carey Gadzala
Project Manager



WORK ORDER SAMPLE SUMMARY

Date: *Tuesday, August 27, 2019*

Client: Arcelor Mittal USA, Inc.
Project: Ammonia-Storm Ditch
Lab Order: 19H1552

Lab Sample ID	Client Sample ID	Tag Number	Collection Date	Date Received
19H1552-01	Plate Mill Storm Ditch		08/26/2019 00:00	8/26/2019 9:50:00AM
19H1552-02	Main Storm Ditch		08/26/2019 00:00	8/26/2019 9:50:00AM
19H1552-03	Cannon Storm Ditch		08/26/2019 00:00	8/26/2019 9:50:00AM
19H1552-04	NW Storm Ditch		08/26/2019 00:00	8/26/2019 9:50:00AM
19H1552-05	SWTP Effluent/Clarifiers		08/26/2019 00:00	8/26/2019 9:50:00AM
19H1552-06	999		08/26/2019 00:00	8/26/2019 9:50:00AM
19H1552-07	031		08/26/2019 00:00	8/26/2019 9:50:00AM
19H1552-08	001		08/26/2019 00:00	8/26/2019 9:50:00AM

CASE NARRATIVE**Date:** *Tuesday, August 27, 2019*

Client: Arcelor Mittal USA, Inc.
Project: Ammonia-Storm Ditch
Lab Order: 19H1552

The Matrix Spike and Matrix Spike Duplicate failed the accuracy and precision criteria for ammonia with a low bias. A Post Digestion Spike was performed and the acceptance criteria met, indicating accurate measurement at the instrument. The following sample was spiked:

<u>Laboratory ID</u>	<u>Sample Name</u>
19H1552-08	001

The Matrix Spike Duplicate performed on the following sample failed the precision criteria for ammonia. The accuracy criteria were met by the Matrix Spike Duplicate. A Post Digestion Spike was analyzed and the acceptance criteria met, indicating interference at the preparation level.

<u>Laboratory ID</u>	<u>Sample Name</u>
19H1552-07	031



Analytical Results

Date: Tuesday, August 27, 2019

Client: Arcelor Mittal USA, Inc.
Client Project: Ammonia-Storm Ditch
Client Sample ID: Plate Mill Storm Ditch
Sample Description:
Matrix: Aqueous

Work Order/ID: 19H1552-01
Sampled: 08/26/2019 0:00
Received: 08/26/2019 9:50

Analyses	Certs	AT	Result	RL	Qual	Units	DF	Analyzed
				Method: EPA 350.1 Rev 2.0		Analyst: ABG		
Nitrogen, Ammonia as N				Prep Method: EPA 350.1 Rev 2.0		Prep Date/Time: 08/26/2019 14:30		
Nitrogen, Ammonia (As N)	di	A	ND	0.10		mg/L	1	08/26/2019 16:09

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Analytical Results

Date: Tuesday, August 27, 2019

Client:	Arcelor Mittal USA, Inc.	Work Order/ID:	19H1552-02
Client Project:	Ammonia-Storm Ditch	Sampled:	08/26/2019 0:00
Client Sample ID:	Main Storm Ditch	Received:	08/26/2019 9:50
Sample Description:			
Matrix:	Aqueous		

Analyses	Certs	AT	Result	RL	Qual	Units	DF	Analyzed
			Method: EPA 350.1 Rev 2.0		Analyst: ABG			
Nitrogen, Ammonia as N			Prep Method: EPA 350.1 Rev 2.0		Prep Date/Time: 08/26/2019 14:30			
Nitrogen, Ammonia (As N)	di	A	ND	0.10		mg/L	1	08/26/2019 16:11



Analytical Results

Date: Tuesday, August 27, 2019

Client: Arcelor Mittal USA, Inc.
Client Project: Ammonia-Storm Ditch
Client Sample ID: Cannon Storm Ditch
Sample Description:
Matrix: Aqueous

Work Order/ID: 19H1552-03
Sampled: 08/26/2019 0:00
Received: 08/26/2019 9:50

Analyses	Certs	AT	Result	RL	Qual	Units	DF	Analyzed
				Method: EPA 350.1 Rev 2.0		Analyst: ABG		
Nitrogen, Ammonia as N				Prep Method: EPA 350.1 Rev 2.0		Prep Date/Time: 08/26/2019 14:30		
Nitrogen, Ammonia (As N)	di	A	ND	0.10		mg/L	1	08/26/2019 16:14

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Analytical Results

Date: Tuesday, August 27, 2019

Client: Arcelor Mittal USA, Inc.
Client Project: Ammonia-Storm Ditch
Client Sample ID: NW Storm Ditch
Sample Description:
Matrix: Aqueous

Work Order/ID: 19H1552-04
Sampled: 08/26/2019 0:00
Received: 08/26/2019 9:50

Analyses	Certs	AT	Result	RL	Qual	Units	DF	Analyzed
				Method: EPA 350.1 Rev 2.0		Analyst: ABG		
Nitrogen, Ammonia as N				Prep Method: EPA 350.1 Rev 2.0		Prep Date/Time: 08/26/2019 14:30		
Nitrogen, Ammonia (As N)	di	A	ND	0.10		mg/L	1	08/26/2019 16:16

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Analytical Results

Date: *Tuesday, August 27, 2019*

Client:	Arcelor Mittal USA, Inc.	Work Order/ID:	19H1552-05RE2
Client Project:	Ammonia-Storm Ditch	Sampled:	08/26/2019 0:00
Client Sample ID:	SWTP Effluent/Clarifiers	Received:	08/26/2019 9:50
Sample Description:			
Matrix:	Aqueous		

Analyses	Certs	AT	Result	RL	Qual	Units	DF	Analyzed
			Method: EPA 350.1 Rev 2.0		Analyst: ABG			
Nitrogen, Ammonia as N			Prep Method: EPA 350.1 Rev 2.0		Prep Date/Time: 08/26/2019 14:30			
Nitrogen, Ammonia (As N)	di	A	0.20	0.10		mg/L	1	08/26/2019 17:09



Analytical Results

Date: Tuesday, August 27, 2019

Client:	Arcelor Mittal USA, Inc.	Work Order/ID:	19H1552-06
Client Project:	Ammonia-Storm Ditch	Sampled:	08/26/2019 0:00
Client Sample ID:	999	Received:	08/26/2019 9:50
Sample Description:			
Matrix:	Aqueous		

Analyses	Certs	AT	Result	RL	Qual	Units	DF	Analyzed
			Method: EPA 350.1 Rev 2.0		Analyst: ABG			
Nitrogen, Ammonia as N			Prep Method: EPA 350.1 Rev 2.0		Prep Date/Time: 08/26/2019 14:30			
Nitrogen, Ammonia (As N)	di	A	ND	0.10		mg/L	1	08/26/2019 16:25

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Analytical Results

Date: *Tuesday, August 27, 2019*

Client:	Arcelor Mittal USA, Inc.	Work Order/ID:	19H1552-07
Client Project:	Ammonia-Storm Ditch	Sampled:	08/26/2019 0:00
Client Sample ID:	031	Received:	08/26/2019 9:50
Sample Description:			
Matrix:	Aqueous		

Analyses	Certs	AT	Result	RL	Qual	Units	DF	Analyzed
			Method: EPA 350.1 Rev 2.0		Analyst: ABG			
Nitrogen, Ammonia as N			Prep Method: EPA 350.1 Rev 2.0		Prep Date/Time: 08/26/2019 14:30			
Nitrogen, Ammonia (As N)	di	A	ND	0.10		mg/L	1	08/26/2019 16:28



Analytical Results

Date: Tuesday, August 27, 2019

Client: Arcelor Mittal USA, Inc.
Client Project: Ammonia-Storm Ditch
Client Sample ID: 001
Sample Description:
Matrix: Aqueous

Work Order/ID: 19H1552-08
Sampled: 08/26/2019 0:00
Received: 08/26/2019 9:50

Analyses	Certs	AT	Result	RL	Qual	Units	DF	Analyzed
			Method: EPA 350.1 Rev 2.0		Analyst: ABG			
Nitrogen, Ammonia as N			Prep Method: EPA 350.1 Rev 2.0		Prep Date/Time: 08/26/2019 14:30			
Nitrogen, Ammonia (As N)	di	A	ND	0.10		mg/L	1	08/26/2019 16:35

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ANALYTE TYPES: (AT)

A, B = Target Analyte

I = Internal Standard

M = Summation Analyte

S = Surrogate

T = Tentatively Identified Compound (TIC, concentration estimated)



QC SAMPLE IDENTIFICATIONS

BLK = Method Blank

DUP = Method Duplicate

BS = Method Blank Spike

MS = Matrix Spike

ICB = Initial Calibration Blank

CCB = Continuing Calibration Blank

CRL = Client Required Reporting Limit

PDS = Post Digestion Spike

QCS = Quality Control Standard

ICSA = Interference Check Standard "A"

ICSAB = Interference Check Standard "AB"

BSD = Method Blank Spike Duplicate

MSD = Matrix Spike Duplicate

ICV = Initial Calibration Verification

CCV = Continuing Calibration Verification

OPR = Ongoing Precision and Recovery Standard

SD = Serial Dilution

CERTIFICATIONS (Certs)

Below is a list of certifications maintained by the Microbac Merrillville Laboratory. All data included in this report has been reviewed for and meets all project specific and quality control requirements of the applicable accreditation, unless otherwise noted. Complete lists of individual analytes pursuant to each certification below are available upon request.

^d Illinois EPA drinking water, wastewater and solid waste analysis (#200064)

ⁱ Kansas Dept Health & Env. NELAP (#E-10397)

FLAGS, FOOTNOTES AND ABBREVIATIONS (as needed)

RL: Reporting Limit

RPD: Relative Percent Difference

Cooler Receipt Log

Cooler ID: Default Cooler



Comments

No time. Samples preserved at lab

Cooler Inspection Checklist

Ice Present or not required?	Yes
Shipping containers sealed or not required?	Yes
Custody seals intact or not required?	Yes
Chain of Custody (COC) Present?	Yes
COC includes customer information?	Yes
Relinquished and received signature on COC?	Yes
Sample collector identified on COC?	Yes
Sample type identified on COC?	Yes
Correct type of Containers Received	Yes
Correct number of containers listed on COC?	Yes
Containers Intact?	Yes
COC includes requested analyses?	Yes
Enough sample volume for indicated tests received?	Yes
Sample labels match COC (Name, Date & Time?)	Yes
Samples arrived within hold time?	Yes
Correct preservatives on COC or not required?	Yes
Chemical preservations checked or not required?	Yes
Preservation checks meet method requirements?	Yes
VOA vials have zero headspace, or not recd.?	Yes

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CHAIN OF CUSTODY RECORD



Number **152552**

Instructions on back

TO BE COMPLETED BY MICROBAC
 Temperature Upon Receipt (°C) **7.1**
 Therm ID **-03**
 Holding Time **6.8**
 Samples Received on Ice? Yes No N/A
 Custody Seals Intact? Yes No N/A

Turnaround Time
 Routine (5 to 7 business days)
 RUSH* (notify lab)
 (needed by)
 Report Type
 Results Only Level 1 Level 2 Level 3 Level 4 EDO

Invoice Address
 Client Name:
 Address:
 City, State, Zip:
 Contact:
 Telephone No.:

Lab Report Address
 Client Name: **Ammonia Storm Ditch**
 Address:
 City, State, Zip:
 Contact:
 Telephone No.:

Send Report via: Mail Fax e-mail (address)
 Send Invoice via: Mail Fax e-mail (address)
 Project: **Ammonia Storm Ditch**
 Location: **Ammonia Storm Ditch**
 Compliance Monitoring? Yes No
 Agency/Program

Sampler Signature: **[Signature]** Sampler Phone No.:
 PO No.:

* Matrix Types: Soil/Solid (S), Sludge, Oil, Wipe, Drinking Water (DW), Groundwater (GW), Surface Water (SW), Waste Water (WW), Other (specify)
 ** Preservative Types: (1) HNO3, (2) H2SO4, (3) HCl, (4) NaOH, (5) Zinc Acetate, (6) Methanol, (7) Sodium Bisulfate, (8) Sodium Thiosulfate, (9) Hexane, (U) Unpreserved

Client Sample ID	Date Collected	Time Collected	No. of Containers	Matrix	Grab / Comp	Preservative Types**	Requested Analysis
Storm Ditch Plate 8/25/19							19H1552 Additional Notes -01
Storm Ditch Main							-02
Storm Ditch Canal							-03
Storm Ditch AW							-04
SWTP Chlorinators							-05
031							-06
999							-07
ool Flame							-08

Possible Hazard Identification Hazardous Non-Hazardous Radioactive
 Comments
 Relinquished By (signature) **[Signature]** Date/Time **8/26/19 0830**
 Relinquished By (signature) **[Signature]** Date/Time **8/26/19 0830**
 Relinquished By (signature) **[Signature]** Date/Time **8/26/19 0935**